

Attorney Docket No.: 045636-5054
Application No.: Unassigned

12. A peptide selected from the group of consisting of $Y_1KQYTSIHGGY_0$ (SEQ ID NO: 2), $Y_1KKQYTSIHGGY_0$ (SEQ ID NO: 3) and $Y_1KKKQYTSIHGGY_0$ (SEQ ID NO: 4), in which Y_0 is null or represents V, VV, VVE VVEV or VVEVD and Y_1 represents an internalization and addressing peptide corresponding to the sequence

$X_1X_2X_3X_4X_5X_6X_7X_8X_9X_{10}X_{11}X_{12}X_{13}X_{14}X_{15}X_{16}$, in which

$X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10}, X_{11}, X_{12}, X_{13}, X_{14}, X_{15}$ and X_{16} each represent an α -amino acid, 6 to 10 of said amino acids being hydrophobic and X_6 representing a tryptophan.

13. The peptide as claimed in claim 12, wherein the sequence Y_1 corresponds to the sequence KQIKIWFQNRRMKWKK (SEQ ID NO: 5).

14. A method of selecting and screening products capable of inhibiting apoptosis comprising detecting inhibition of the capacity of the juxtamembrane domain located between positions 649 and 664 of the cytoplasmic domain of amyloid precursor protein to induce apoptotic activity subsequent to internalization into a cell.

15. The method of claim 14, wherein said peptide is combined with an internalization peptide selected from the group consisting of internalization peptides capable of crossing the blood-brain barrier.

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16. A method of selecting and screening products capable of inhibiting apoptosis comprising detecting inhibition of the capacity of a peptide selected from the group consisting of $Y_1KQYTSIHG Y_0$ (SEQ ID NO: 2), $Y_1KKQYTSIHG Y_0$ (SEQ ID NO: 3) and $Y_1KKKQYTSIHG Y_0$ (SEQ ID NO: 4), in which Y_0 is null or represents V, VV, VVE VVEV or VVEVD and Y_1 is null or represents an internalization and addressing peptide corresponding to the sequence $X_1X_2X_3X_4X_5X_6X_7X_8X_9X_{10}X_{11}X_{12}X_{13}X_{14}X_{15}X_{16}$, in which $X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10}, X_{11}, X_{12}, X_{13}, X_{14}, X_{15}$ and X_{16} each represent an α -amino acid, 6 to 10 of said amino acids being hydrophobic and X_6 representing a tryptophan, to induce apoptotic activity subsequent to internalization into a cell.

17. The method of claim 16 wherein candidate inhibitors are tested against cells in which the claimed peptide has been internalized.

18. The method of claim 17 comprising the steps of:

- bringing the potential inhibitor into contact with said cell into which said peptide has been internalized, and

either measuring cleavage of DNA or of actin or measuring the p20 subunit of caspase 3.

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19. A method of treating cancer comprising the administration of an effective amount of a peptide of claim 12.

20. A peptide selected from the group of peptides $Y_1KQYTSIHG Y_0$ (SEQ ID NO: 2) and $Y_1KKQYTSIHG Y_0$ (SEQ ID NO: 3), in which Y_0 is null or represents V, VV, VVE VVEV or VVEVD and Y_1 is null, and of the peptide of formula $Y_1KKKQYTSIHG Y_0$ (SEQ ID NO: 4), in which Y_0 represents VVEVD and Y_1 is null.

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20. A peptide selected from the group consisting of peptides $Y_1KQYTSIHHGY_0$ (SEQ ID NO: 2) and $Y_1KKQYTSIHHGY_0$ (SEQ ID NO: 3), in which Y_0 is null or represents V, VV, VVE VVEV or VVEVD and Y_1 is null, and of the peptide of formula $Y_1KKKQYTSIHHGY_0$ (SEQ ID NO: 4), in which Y_0 represents VVEVD and Y_1 is null.

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CLAIMS

1. A peptide, characterized in that it is selected from the group of peptides defined by the sequences (one-letter code): Y₁KQYTSIH₁HGY₀ (SEQ ID NO: 2), Y₁KKQYTSIH₁HGY₀ (SEQ ID NO: 3) and Y₁KKKQYTSIH₁HGY₀ (SEQ ID NO: 4), in which Y₀ is null or represents V, VV, VVE VVEV or VVEVD and Y₁ represents an internalization and addressing peptide corresponding to the sequence X₁X₂X₃X₄X₅X₆X₇X₈X₉X₁₀X₁₁X₁₂X₁₃X₁₄X₁₅X₁₆, in which X₁, X₂, X₃, X₄, X₅, X₆, X₇, X₈, X₉, X₁₀, X₁₁, X₁₂, X₁₃, X₁₄, X₁₅ and X₁₆ each represent an α-amino acid, 6 to 10 of said amino acids being hydrophobic and X₆ representing a tryptophan.
2. The peptide as claimed in claim 1, characterized in that the sequence Y₁ corresponds to the sequence KQIKIWFQNRRMKWKK (SEQ ID NO: 5).
3. The use of a peptide comprising the juxtamembrane domain located between positions 649 and 664 of the cytoplasmic domain of amyloid precursor protein, for selecting and screening products capable of inhibiting apoptosis.
4. The use as claimed in claim 3, characterized in that said peptide is combined with an internalization peptide selected from the group consisting of internalization peptides capable of crossing the blood-brain barrier.
5. The use of a peptide selected from the group of peptides defined by the sequences (one-letter code) Y₁KQYTSIH₁HGY₀ (SEQ ID NO: 2), Y₁KKQYTSIH₁HGY₀ (SEQ ID NO: 3) and Y₁KKKQYTSIH₁HGY₀ (SEQ ID NO: 4), in which Y₀ is null or represents V, VV, VVE VVEV or VVEVD and Y₁ is null or represents an

- internalization and addressing peptide corresponding to the sequence $X_1X_2X_3X_4X_5X_6X_7X_8X_9X_{10}X_{11}X_{12}X_{13}X_{14}X_{15}X_{16}$, in which $X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10}, X_{11}, X_{12}, X_{13}, X_{14}, X_{15}$ and X_{16} each represent an α -amino acid, 6 to 10 of said amino acids being hydrophobic and X_6 representing a tryptophan, for selecting and screening products capable of inhibiting apoptosis.
- 10 6. The use of cells, into which a peptide as defined in claims 3 to 5 has been internalized, for selecting and screening products capable of inhibiting apoptosis.
- 15 7. A method for screening and selecting products capable of inhibiting apoptosis, characterized in that it comprises:
- bringing the potential inhibitor into contact with
20 a cell into which a peptide as defined in claims 3 to 5 has been internalized, and
 - measuring cleavage of DNA or of actin or measuring the p20 subunit of caspase 3.
- 25 8. The use of a peptide as defined in claims 3 to 5, for preparing an anticancer medicinal product.
- 30 9. A peptide, characterized in that it is selected from the group of peptides defined by the sequences (one-letter code) $Y_1KQYTSIHGGY_0$ (SEQ ID NO: 2) and $Y_1KKQYTSIHGGY_0$ (SEQ ID NO: 3), in which Y_0 is null or represents V, VV, VVE VVEV or VVEVD and Y_1 is null, and of the peptide of formula
35 $Y_1KKKQYTSIHGGY_0$ (SEQ ID NO: 4), in which Y_0 represents VVEVD and Y_1 is null.